B 7

```
NNN         NNN     IIIIIIIII        CCCCCCCCCCCC NNN         NNN  FFFFFFFFFFFFFFF
NNN         NNN     IIIIIIIII        CCCCCCCCCCCC NNN         NNN  FFFFFFFFFFFFFFF
NNN         NNN     IIIIIIIII        CCCCCCCCCCCC NNN         NNN  FFFFFFFFFFFFFFF
NNN         NNN        III        CCC             NNN         NNN  FFF
NNN         NNN        III        CCC             NNN         NNN  FFF
NNN         NNN        III        CCC             NNN         NNN  FFF
NNNNNN      NNN        III        CCC             NNNNNN      NNN  FFF
NNNNNN      NNN        III        CCC             NNNNNN      NNN  FFF
NNNNNN      NNN        III        CCC             NNNNNN      NNN  FFF
NNN   NNN   NNN        III        CCC             NNN   NNN   NNN  FFFFFFFFFFFF
NNN   NNN   NNN        III        CCC             NNN   NNN   NNN  FFFFFFFFFFFF
NNN   NNN   NNN        III        CCC             NNN   NNN   NNN  FFFFFFFFFFFF
NNN      NNNNNN        III        CCC             NNN      NNNNNN  FFF
NNN      NNNNNN        III        CCC             NNN      NNNNNN  FFF
NNN      NNNNNN        III        CCC             NNN      NNNNNN  FFF
NNN         NNN        III        CCC             NNN         NNN  FFF
NNN         NNN        III        CCC             NNN         NNN  FFF
NNN         NNN        III        CCC             NNN         NNN  FFF
NNN         NNN     IIIIIIIII        CCCCCCCCCCCC NNN         NNN  FFF
NNN         NNN     IIIIIIIII        CCCCCCCCCCCC NNN         NNN  FFF
NNN         NNN     IIIIIIIII        CCCCCCCCCCCC NNN         NNN  FFF
```

**F

```
**FILE**ID**CNFWORKQ                                   M  5

  CCCCCCCC  NN      NN  FFFFFFFFFF  WW      WW    OOOOOO    RRRRRRRR    KK      KK    QQQQQQ
  CCCCCCCC  NN      NN  FFFFFFFFFF  WW      WW    OOOOOO    RRRRRRRR    KK      KK    QQQQQQ
CC          NN      NN  FF          WW      WW  OO      OO  RR      RR  KK      KK  QQ      QQ
CC          NN      NN  FF          WW      WW  OO      OO  RR      RR  KK      KK  QQ      QQ
CC          NNNN    NN  FF          WW      WW  OO      OO  RR      RR  KK    KK    QQ      QQ
CC          NNNN    NN  FF          WW      WW  OO      OO  RR      RR  KK    KK    QQ      QQ
CC          NN  NN  NN  FFFFFFFF    WW      WW  OO      OO  RRRRRRRR    KKKKKK      QQ      QQ
CC          NN  NN  NN  FFFFFFFF    WW      WW  OO      OO  RRRRRRRR    KKKKKK      QQ      QQ
CC          NN    NNNN  FF          WW  WW  WW  OO      OO  RR  RR      KK    KK    QQ  QQ  QQ
CC          NN    NNNN  FF          WW  WW  WW  OO      OO  RR  RR      KK    KK    QQ  QQ  QQ
CC          NN      NN  FF          WWWW  WWWW  OO      OO  RR    RR    KK      KK  QQ    QQ        ....
CC          NN      NN  FF          WWWW  WWWW  OO      OO  RR    RR    KK      KK  QQ    QQ        ....
  CCCCCCCC  NN      NN  FF          WW      WW    OOOOOO    RR      RR  KK      KK    QQQQ  QQ      ....
  CCCCCCCC  NN      NN  FF          WW      WW    OOOOOO    RR      RR  KK      KK    QQQQ  QQ      ....

LL          IIIIII    SSSSSSSS
LL          IIIIII    SSSSSSSS
LL            II    SS
LL            II    SS
LL            II    SS
LL            II    SS
LL            II      SSSSSS
LL            II      SSSSSS
LL            II            SS
LL            II            SS
LL            II            SS
LL            II            SS
LLLLLLLLLL  IIIIII  SSSSSSSS
LLLLLLLLLL  IIIIII  SSSSSSSS
```

_$

NM

DE

LI

```
0001 0 MODULE CNFWORKQ (IDENT = 'V04-000') =
0002 1 BEGIN
0003 1
0004 1 !
0005 1 !****************************************************************************
0006 1 !*                                                                          *
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0023 1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                 *
0024 1 !*                                                                          *
0025 1 !*                                                                          *
0026 1 !****************************************************************************
0027 1
0028 1 !++
0029 1 ! FACILITY:  DECnet Configurator Module, (NICONFIG)
0030 1 !
0031 1 ! ABSTRACT:
0032 1 !
0033 1 !       This module contains routines to manage the internal
0034 1 !       work queue.
0035 1 !
0036 1 ! ENVIRONMENT:
0037 1 !
0038 1 !       VAX/VMS operating system. unprivileged user mode,
0039 1 !
0040 1 ! AUTHOR:  Tim Halvorsen, June 1980
0041 1 !
0042 1 ! Modified by:
0043 1 !
0044 1 !--
0045 1
0046 1 !
0047 1 ! Include files
0048 1 !
0049 1
0050 1 LIBRARY 'SYS$LIBRARY:STARLET';          ! VAX/VMS common definitions
0051 1
0052 1 REQUIRE 'SYS$LIBRARY:UTILDEF';          ! Misc. VMS definitions
0228 1
0229 1 REQUIRE 'LIB$:CNFWQDEF';                ! Structure definitions
```

```
;    56         0246  1 !
;    57         0247  1 ! Table of contents
;    58         0248  1 !
;    59         0249  1
;    60         0250  1 FORWARD ROUTINE
;    61         0251  1     wkq$add_work_item,                         ! Add a work item
;    62         0252  1     wkq$do_work_item;                          ! Dequeue and execute a work item
;    63         0253  1
;    64         0254  1 !
;    65         0255  1 ! BUILTIN functions
;    66         0256  1 !
;    67         0257  1
;    68         0258  1 BUILTIN
;    69         0259  1     INSQUE,                                    ! INSQUE instruction
;    70         0260  1     REMQUE;                                    ! REMQUE instruction
;    71         0261  1
;    72         0262  1 !
;    73         0263  1 ! OWN storage
;    74         0264  1 !
;    75         0265  1
;    76         0266  1 OWN
;    77         0267  1     work_queue:          VECTOR [2]      ! Work queue listhead
;    78         0268  1                          INITIAL(work_queue,work_queue),
;    79         0269  1     timed_queue:         VECTOR [2]      ! Timed work queue listhead
;    80         0270  1                          INITIAL(timed_queue,timed_queue);
;    81         0271  1
;    82         0272  1 !
;    83         0273  1 ! External routines
;    84         0274  1 !
;    85         0275  1
;    86         0276  1 EXTERNAL ROUTINE
;    87         0277  1     CNF$GET_ZVM: ADDRESSING_MODE(GENERAL),       ! Allocate storage
;    88         0278  1     CNF$FREE_VM: ADDRESSING_MODE(GENERAL);       ! Deallocate storage
;   90          0279  1 GLOBAL ROUTINE wkq$add_work_item (action_routine, arg1, arg2, arg3) =
;   91          0280  1
;   92          0281  1 !---
;   93          0282  1 !
;   94          0283  1 !       This routine adds a single work item to the work queue.
;   95          0284  1 !       A $WAKE is performed for the first work item added.
;   96          0285  1 !
;   97          0286  1 ! Inputs:
;   98          0287  1 !
;   99          0288  1 !       action_routine = Address of routine to call to perform work.
;  100          0289  1 !       arg1/273 = Arguments to be passed to action routine when called.
;  101          0290  1 !
;  102          0291  1 ! Outputs:
;  103          0292  1 !
;  104          0293  1 !       routine = status code
;  105          0294  1 !---
;  106          0295  1
;  107          0296  2 BEGIN
;  108          0297  2
;  109          0298  2 LOCAL
;  110          0299  2     length,                           ! Length of allocate/deallocation
;  111          0300  2     entry:      REF BBLOCK;           ! Address of work queue entry
;  112          0301  2
;  113          0302  2 length = wqe$c_length;                ! Length of a work queue entry
;  114          0303  2 return_if_error(CNF$GET_ZVM(length,entry));     ! Allocate entry
;  115          0304  2
;  116          0305  2 entry [wqe$l_pc] = .action_routine;    ! Store address of action routine
;  117          0306  2 entry [wqe$l_arg1] = .arg1;           ! then store 3 arguments
;  118          0307  2 entry [wqe$l_arg2] = .arg2;           !
;  119          0308  2 entry [wqe$l_arg3] = .arg3;           ! assume all arguments must be given
;  120          0309  2
;  121          0310  2 IF INSQUE(.entry, .work_queue [1])     ! Queue entry at tail of list
;  122          0311  2 THEN
;  123          0312  2     $WAKE();                          ! If first, wakeup process
;  124          0313  2
;  125          0314  2 RETURN true;
;  126          0315  2
;  127          0316  1 END;


                                                          .TITLE  CNFWORKQ
                                                          .IDENT  \V04-000\

                                                          .PSECT  $OWN$,NOEXE,2

                          00000000' 00000000' 00000 WORK_QUEUE:
                                                          .ADDRESS WORK_QUEUE, WORK_QUEUE                        ;
                          00000000' 00000000' 00008 TIMED_QUEUE:
                                                          .ADDRESS TIMED_QUEUE, TIMED_QUEUE                      ;

                                                          .EXTRN  CNF$GET_ZVM, CNF$FREE_VM
                                                          .EXTRN  SYS$WAKE

                                                          .PSECT  $CODE$,NOWRT,2

                                      0000 00000          .ENTRY  WKQ$ADD_WORK_ITEM, Save nothing                ; 0279
                          5E            08  C2 00002          SUBL2   #8, SP                                     ;
                          04   AE                1C  D0 00005          MOVL     #28, LENGTH                                    ; 0302
                                                 5E  DD 00009          PUSHL    SP                                             ; 0303
                                         08      AE  9F 0000B          PUSHAB   LENGTH                                         ;
                   00000000G   00                02  FB 0000E          CALLS    #2, CNF$GET_ZVM                                ;
                               20                50  E9 00015          BLBC     STATUS, 2$                                     ;
                               50                6E  D0 00018          MOVL     ENTRY, R0                                      ; 0305
                          08   A0        04      AC  7D 0001B          MOVQ     ACTION_ROUTINE, 8(R0)                          ;
                          10   A0        0C      AC  7D 00020          MOVQ     ARG2, T6(R0)                                   ; 0307
                       0000'   DF                60  0E 00025          INSQUE   (R0), @WORK_QUEUE+4                            ; 0310
                                                 09  12 0002A          BNEQ     1$                                             ;
                                                 7E  7C 0002C          CLRQ     -(SP)                                          ; 0312
                   00000000G   00                02  FB 0002E          CALLS    #2, SYS$WAKE                                   ;
                               50                01  D0 00035 1$:      MOVL     #1, R0                                         ; 0314
                                                     04 00038 2$:      RET                                                     ; 0316

; Routine Size:  57 bytes,    Routine Base:  $CODE$ + 0000
;  129          0317  1 GLOBAL ROUTINE wkq$do_work_item =
;  130          0318  1
;  131          0319  1 !---
;  132          0320  1 !
;  133          0321  1 !       This routine dequeues the next work item to be performed
;  134          0322  1 !       and calls the action routine associated with the item.
;  135          0323  1 !
;  136          0324  1 ! Inputs:
;  137          0325  1 !
;  138          0326  1 !       None
;  139          0327  1 !
;  140          0328  1 ! Outputs:
;  141          0329  1 !
;  142          0330  1 !       routine = True if successful, false if nothing in queue
;  143          0331  1 !---
;  144          0332  1
;  145          0333  2 BEGIN
;  146          0334  2
;  147          0335  2 LOCAL
;  148          0336  2     length,                             ! Length of work queue entry
;  149          0337  2     entry:      REF BBLOCK;             ! Address of entry in queue
;  150          0338  2
;  151          0339  2 IF REMQUE(.work_queue [0], entry)       ! Remove first entry from queue
;  152          0340  2 THEN
;  153          0341  2     RETURN false;                       ! If none, return unsuccessful
;  154          0342  2
;  155          0343  2 (.entry [wqe$l_pc])(.entry [wqe$l_arg1],
;  156          0344  2         .entry [wqe$l_arg2], .entry [wqe$l_arg3]); ! Call routine
;  157          0345  2
;  158          0346  2 length = wqe$c_length;
;  159          0347  2 CNF$FREE_VM(length, entry);             ! Deallocate entry
;  160          0348  2
;  161          0349  2 RETURN true;
;  162          0350  2
;  163          0351  1 END;



                                        0000 00000          .ENTRY  WKQ$DO_WORK_ITEM, Save nothing              ; 0317
                  5E               04     C2 00002          SUBL2   #4, SP                                      ;
                  7E       0000'   DF     0F 00005          REMQUE  @WORK_QUEUE, ENTRY                          ; 0339
                                   22     1D 0000A          BVS     1$                                          ;
                  50               6E     D0 0000C          MOVL    ENTRY, R0                                   ; 0343
                  7E         10    A0     7D 0000F          MOVQ    16(R0), -(SP)                               ; 0344
                             0C    A0     DD 00013          PUSHL   12(R0)                                      ; 0343
             08   B0               03     FB 00016          CALLS   #3, @8(R0)                                  ;
             04   AE               1C     D0 0001A          MOVL    #28, LENGTH                                 ; 0346
                                   5E     DD 0001E          PUSHL   SP                                          ; 0347
                             08    AE     9F 00020          PUSHAB  LENGTH                                      ;
      00000000G   00               02     FB 00023          CALLS   #2, CNF$FREE_VM                             ;
                  50               01     D0 0002A          MOVL    #1, R0                                      ; 0349
                                          04 0002D          RET                                                 ;
                                   50     D4 0002E 1$:      CLRL    R0                                          ; 0351
                                          04 00030          RET                                                 ;
```

```
; Routine Size:  49 bytes,    Routine Base:  $CODE$ + 0039

;  164          0352  1
;  165          0353  1 END
;  166          0354  0 ELUDOM



;                                     PSECT SUMMARY
;
;       Name                        Bytes                         Attributes
;
;   $OWN$                                16  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;   $CODE$                              106  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)



;                              Library Statistics
;
;                                             -------- Symbols --------       Pages        Processing
;       File                                  Total    Loaded   Percent       Mapped       Time
;
;   _$255$DUA28:[SYSLIB]STARLET.L32;1          9776         7         0         581          00:01.1



;                                     COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:CNFWORKQ/OBJ=OBJ$:CNFWORKQ MSRC$:CNFWORKQ/UPDATE=(ENH$:CNFWORKQ)

; Size:           106 code + 16 data bytes
; Run Time:          00:05.0
; Elapsed Time:      00:10.6
; Lines/CPU Min:       4248
; Lexemes/CPU-Min:  16500
; Memory Used:   53 pages
; Compilation Complete
```

0280 AH-BT13A-SE
VAX/VMS V4.0

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